

# THE TECHNOLOGY REVIEW

RELATING TO THE MASSA-  
CHUSETTS INSTITUTE  
OF TECHNOLOGY



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# technology review

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**POTLATCH**  
**CHANTANT**

**Mechanics Fair  
Building**

**Tuesday Evening, June 10**

*AT 8 O'CLOCK*

**Taking the place of**

**THE ANNUAL  
POP CONCERT**

# The Technology Review

VOL. XV

MAY, 1913

No. 5

## HOW THE ALUMNI FUND STANDS

Good work in some of the classes is increasing the percentage of subscribers

On May 1 the Alumni Fund amounted to \$494,543.38, the number of subscribers having increased to 2,510. The total number of former students is 9,312 and the per cent. of men subscribing is therefore 26.9 per cent.

The relative standing of the classes is as follows:

CLASS	POINTS	CLASS	POINTS
1. '85	9	23. '06	46
2. '78	10	24. '95	49
3. '81	10	25. '05	50
4. '68	13	26. '75	51
5. '10	15	27. '80	51
6. '88	16	28. '98	52
7. '90	17	29. '07	52
8. '73	18	30. '94	58
9. '84	18	31. '92	59
10. '89	18	32. '04	59
11. '93	20	33. '83	60
12. '09	24	34. '69	65
13. '76	30	35. '77	66
14. '91	34	36. '70	69
15. '97	34	37. '01	71
16. '08	34	38. '72	76
17. '79	39	39. '87	76
18. '82	40	40. '00	77
19. '03	41	41. '86	78
20. '11	42	42. '71	79
21. '96	45	43. '02	79
22. '74	46	44. '99	84

When we come to the point of number of men subscribing, however, the relations of the classes change materially. The following table shows the relative standing of the classes based on the per cent. of men subscribing:

CLASS	PER CENT	CLASS	PER CENT
1. '84	81.	23. '07	25.8
2. '81	58.3	24. '76	25.3
3. '74	46.	25. '06	25.3
4. '89	39.1	26. '95	24.
5. '10	38.1	27. '77	23.8
6. '78	37.8	28. '92	23.8
7. '85	37.7	29. '70	23.7
8. '68	36.4	30. '83	23.6
9. '73	36.2	31. '11	23.3
10. '90	35.3	32. '69	22.7
11. '09	31.3	33. '98	22.5
12. '97	30.6	34. '04	22.3
13. '79	30.3	35. '71	21.4
14. '03	30.3	36. '86	21.2
15. '88	30.2	37. '01	20.9
16. '75	29.9	38. '72	20.7
17. '93	29.	39. '80	20.4
18. '91	28.8	40. '94	19.7
19. '08	28.5	41. '00	19.2
20. '82	28.	42. '02	19.
21. '96	27.7	43. '99	18.9
22. '05	26.	44. '87	16.

From the above table it will be seen that the class of '84 leads all the rest by



a tremendous majority. The difference in percentage between '84, the highest class, and '87, the lowest class, is 65. In the first table the class of '85 leads in the general count but in point of men subscribing the class of '84 tops it by 44 per cent. If all the classes had done the kind of work that has been done in the class of '84, the number of subscribers to the fund would be over 7,000.

During the past month the class of '98 has shown the greatest activity. Out of the sixty-five new names added for the month, '98 has contributed thirteen; there are ten new names from the class of '84, six from the class of '92, six from the class of '81, five from the class of '05, and five from the class of '88. The latter class is rapidly increasing its percentage of men subscribing and if the present rate continues will soon over-top the other classes in the first table. What has been done in the classes of '84, '81, and '74 can be done equally well in the other classes.

The REVIEW has asked Professor Gill, Fund representative for the class of '84, how he did it and he replies as follows:

"We took our cue from Everett Morss's remarks at the Fund dinner last fall. 'Get if possible something from everyone—even if it's only a dollar.'

Tyler and the writer went over the class list and we asked certain men—Appleton, Course II, Bennett, I, and Lyle, III—to write to their course mates, while the rest of the class was divided between us, each one writing to those he knew best.

When subscriptions began to wane, the chairman wrote letters to those remaining, asking them to send their dollar now, and more later if so inclined. This was followed up in about a month with a letter asking that something be sent at once, as the Corporation and committee were hampered as to building plans until they knew the probable amount of the Alumni Fund.

A month later, a list of the class with the amounts each contributed was either sent to the non-contributing members, or they were telephoned or personally seen. It was assumed—and correctly—

that the matter was simply laid aside amid the pressure of business and that the list would serve to aid the decision—which it did.

The chairman wishes here to put on record the unfailing good nature and courtesy of the members after all these importunities. Several letters have been received expressing gratitude for bringing the matter again to their attention.

Now the question arises how to get the other nineteen per cent.?"

The class of '88 has recently issued a circular which well expresses the spirit of the Fund. It is as follows:

"It is now about a year since the alumni were first urged to contribute to a fund for the New Technology.

Forty-six men from the class of '88 have contributed. This is 27 per cent. of the class.

It is not true, of course, that only one in four of the class are interested in the future of the Institute, but unless it can be proved that most of those who have had the benefit of Institute training believe in the Institute, there is small hope or justification in securing money from others who are inclined to give.

There is no quicker or more effective way of proving your interest than by getting your name on the list of contributors to the Alumni Fund.

There has been a full year to learn of the plans of the New Technology and to decide whether you approve.

There has been a full year to decide just what you will give.

Remember that your interest and belief in the Institute is the really important thing.

The greatest use of the Alumni Fund would be to prove that this interest and belief is almost unanimous among those who have benefited by the Institute training.

A contribution of something—anything—is wanted as evidence of your belief that the Institute is entitled to encouragement and support.

You can give again when you are better able to give all you would like to, but *something now* has a great practical value. It is like the priming to a pump—like

Class	Subscribers	Amount	A %	B %	A	B	Total
'68	8	\$8,425	36.4	87.	8	5	13
'69	5	1,710	22.7	18.1	32	33	65
'70	9	2,025	23.7	12.7	29	40	69
'71	9	1,160	21.4	6.73	35	44	79
'72	6	1,725	20.7	14.8	38	38	76
'73	17	11,515	36.2	62.8	9	9	18
'74	27	2,220	46.	9.2	3	43	46
'75	23	4,830	29.9	16.8	16	35	51
'76	19	21,875	25.3	81.	24	6	30
'77	16	3,310	23.8	14.1	27	39	66
'78	17	13,700	37.8	89.5	6	4	10
'79	20	5,185	30.3	23.9	13	26	39
'80	6	4,050	20.4	45.2	39	12	51
'81	35	12,530	58.3	67.4	2	8	10
'82	16	4,680	28.	26.9	20	20	40
'83	13	3,775	23.6	23.7	30	30	60
'84	60	6,307	77.	28.9	1	17	18
'85	34	25,891	37.7	106.5	7	2	9
'86	21	3,070	21.2	11.9	36	42	78
'87	26	8,075	16.	20.	44	32	76
'88	51	87,911	30.2	216.	15	1	16
'89	68	16,145	39.1	40.3	4	14	18
'90	64	28,474	35.3	71.6	10	7	17
'91	52	12,506	28.8	33.1	18	16	34
'92	52	9,902	23.8	22.9	28	31	59
'93	87	52,381	29.	91.9	17	3	20
'94	53	13,990	19.7	28.8	40	18	58
'95	56	10,395	24.	25.8	26	23	49
'96	87	12,320	27.7	24.6	21	24	45
'97	79	10,311	30.6	26.6	12	22	34
'98	77	13,000	22.5	27.1	33	19	52
'99	53	4,640	18.9	12.7	43	41	84
'00	59	6,035	19.2	16.4	41	36	77
'01	66	6,244	20.9	18.	37	34	71
'02	60	5,527	19.	17.5	42	37	79
'03	96	6,792	30.3	23.9	14	27	41
'04	87	7,733	22.3	24.1	34	25	59
'05	131	8,424	26.	23.9	22	28	50
'06	121	7,665	25.3	26.8	25	21	46
'07	113	5,223	25.8	23.9	23	29	52
'08	133	7,340	28.5	39.2	19	15	34
'09	149	6,130	31.3	42.9	11	13	24
'10	181	5,693	38.1	59.9	5	10	15
'11	148	3,618	23.3	57.	31	11	42

(a) = % of men in class subscribing.

(b) = % of class assignment subscribed.

the exciting current to a dynamo. Just qualify, that's all. Get your name recorded as a believer and supporter. Make it even a dollar or a few dollars a year for five years, "not for publication but as an evidence of faith."

The following table shows the additions to the Alumni Fund by months:

	SUBSCRIBERS	AMOUNT
Apr. 30, 1912 . . . . .	701	\$233,080.30
May 31 . . . . .	681	108,567.90
June 29 . . . . .	362	50,476.00
July 25 . . . . .	113	14,772.00
Aug. 31 . . . . .	63	7,215.68
Sept. 28 . . . . .	40	8,480.00
Oct. 31 . . . . .	36	5,915.00
Nov. 30 . . . . .	71	26,106.00
Dec. 30 . . . . .	132	12,152.50
Jan. 31, 1913 . . . . .	127	14,201.00
Feb. 28 . . . . .	73	6,774.00
Mar. 31 . . . . .	46	2,521.00
	2,445	\$490,261.38
Apr. 30 . . . . .	66	4,287.00
	2,511	\$494,548.38

### First Tech Club in Canada

The first meeting of the Technology Club of Lower Canada was held at the "Gramophone Building," 357 St. Catherine Street West, Montreal, on the evening of April 21, 1913. The following were present at the meeting: Barrett, P. B., '08; Berliner, E. M., '07; Blatt, H. O., '04; Came, F. E., '81; Decary, L. J. T., '05; Evans, E. B., '06; Farley, W. F., '06; Friedman, Ferdinand J., '08; Hart, W. S., '00; Healy, F. E., '97; Heckle, G. R., '99; Keay, H. O., '00; McGuigan, F. H., Jr., '08; Richardson, E. C., '07; Stearns, H. E., '81; Spence, D. J., '97; Townsend, G. '02.

The meeting was called to order at 9 p. m. by F. E. Came, '81, who acted as chairman for the evening. Mr. Came set forth the object of the proposed club, namely, the bringing together of former students of the Institute, and the promotion of the interests of M. I. T. He further pointed out that this was the first Technology organization to be

formed in Canada and emphasized the desirability, in fact the necessity, of making it a successful one. The constitution was then taken up, and voted on, article by article, and finally adopted.

The following election of officers then took place, president, F. E. Came, '81; vice-president, H. E. Stearns, '81; secretary-treasurer, E. B. Evans, '06; board of governors, D. J. Spence, '97; G. R. Heckle, '99; and the president; vice-president and secretary-treasurer of the club.

All of the routine business of organization having been disposed of, a general discussion of the club's proposed activities took place. It was finally moved by L. J. T. Decary, '05, and seconded by W. S. Hart, '00, that the members of the club arrange to meet on Wednesday or some other convenient day of each week at a down-town restaurant, and that the board of governors make suitable arrangements for same. The motion was carried.

On motion, F. E. Healy, '97, seconded by E. M. Berliner, '06, that friends of members would also be welcomed at these luncheons. Moved by H. E. Stearns, '81, seconded by W. S. Hart, '00, that a printed list of the members of the club, together with a copy of the constitution, be sent to each member of the club. The motion was carried.

The secretary then read a number of letters from alumni residing outside of the city, all of whom expressed their regret at not being able to attend the organization meeting, but promising their enthusiastic support of the club. A letter was also read from Mr. I. W. Litchfield, '85, in which he made several suggestions to the new organization and wished it a long and prosperous existence. The secretary was requested to send out application blanks to alumni residing in the vicinity, who had not attended the meeting, and to endeavor to bring up the number of members to as many as possible.

Please remember that the date of the first Tech Potlatch is June 10, and that the contract for Mechanics Fair Building provides that the lid shall be loose.

## ALUMNI FILL THE OPERA HOUSE

Annual Tech Show pleases a goodly audience and a large sum will be cleared for Athletics

It was a magnificent audience that filled the Boston Opera House on the evening of April 17, and gave a hearty greeting to the undergraduates who presented their annual show. It was the first opportunity the alumni of the Institute have ever had to see the annual student performance, and although the presentation may have lacked in some of the features in which its predecessors have shone, it possessed new and entertaining features and was received with enthusiastic pleasure.

A view of the house from a seat on the floor was an inspiration in itself; every box from floor to ceiling had its quota of spectators, the larger part of them being alumni and the rest undergraduates, mostly seniors.

The show was a Tech production throughout;—with the exception of the leader of the orchestra and the scene-shifters, Tech men took the entire responsibility. It was hard for the audience to believe that the orchestra was composed of undergraduates for their work was almost professional.

The plot of this year's play, entitled *Money in Sight*, was written by Murray Hastings, '13, and Edgar Menderson, '13, and, briefly outlined, relates to the boys of the Tappa Nu Keg Fraternity of Radwel College, who determine to entertain at their house Jabez Cholmondeley Applegate, an eccentric, near-sighted Englishman, with a distinct dislike for college men, making him believe that he is the guest of an exclusive small American hotel. They are somewhat upset when he arrives, not alone, as expected, but accompanied by his maiden sister with her parrot and his two charming daughters, to say nothing of his ubiquitous "bawth tub." They, however, determine to carry the plan through and are successful in making the English guests accept their

hospitality. Complications arise when the faculty discover the scheme and demand explanations, threatening expulsion if these are not satisfactory.

In the second act, to further complicate matters, Jabez discovers the true nature of the hotel and has the matter put into the hands of the police, threatening the boys that unless due reparation for the deceit is made that the whole fraternity will be arrested. With both the faculty and the police on their trail the boys are in a precarious situation, when one of their number, an inventor, produces a new remedy for near-sightedness. This the Englishman uses, his sight is restored by one brief application of the remedy, called "Newsight," he gives the college \$5,000,000 for a "new site," and with this demonstration of "money in sight" the faculty is mollified and everything ends happily with the fall of the final curtain.

The movement of the play was lively and the feature that most impressed the audience was the college setting and atmosphere that pervaded the three acts. Perhaps the most pleasing of the vocal offerings was the song, "Drink With Me," a fine thing in itself and well executed with a particularly effective grouping of the students.

The great feature of the whole play was the dancing which was really wonderful. Harold O. Whitney, as premiere danseuse, was hardly less than professional. The dancing of the Shedd's was especially pleasing and scored one of the hits of the evening. It was difficult to believe that beneath the grace and ruffles of the pony ballet were masculine arms and legs instead of the pirouetting maidens they appeared to be.

The whole show was a revelation to the alumni and a great credit to the actors and the Show management. It is needless to say that if opportunity is given in

the future to see the show at the Opera House it will be greeted by an equally large and enthusiastic audience.

### Detroit Club's Mammoth Steak

The Detroit Technology Association took advantage of the opportunity of having F. H. Fay, '93, president of the Alumni Association, with them for a day while he was on his way to Chicago to meet the Northwestern Association. The meeting in Detroit was held Friday evening, April 4, at the University Club and about twenty-five men were present.

The dinner was unique in that the *pièce de résistance* consisted of a huge steak about four inches thick which had been broiled on a plank nearly four feet square. The luscious steak lay in the middle of the plank and the space between it and the edge of the plank was completely filled with vegetables of all kinds arranged in intricate and ornamental designs. It was truly a work of art. This was brought in with the lights out. After they were turned on, the whole party marched around the side table and gazed at the marvel.

After dinner some local business was transacted including the election of Preston M. Smith, '05, as secretary. The floor was then given to Mr. Fay and he gave us the latest news in regard to the Fund, the progress of the plans for the new plant, a brief sketch of Mr. Bosworth, and also went into several other interesting matters. Questions were freely asked and Mr. Fay's answers brought out much additional information, so that before the evening was through, all present felt well posted on the situation at Boston.

PRESTON M. SMITH, '05.

### Dinner of the Northwestern Association

The annual banquet of the Northwestern Association was held at the La Salle Hotel, Chicago, Saturday evening, April 5. By virtue of necessity the dinner had been postponed from a previous date and the attendance was not as large as usual.

The principal speaker of the evening was Mr. F. H. Fay, '93, president of the Alumni Association, who devoted his time principally to the New Technology. He showed that although the Institute had received generous amounts in gifts, the result to be accomplished was proportionately much greater than the means to do it with, and that many features of the new institution had not yet been even partially provided for. He gave a description of the alumni idea of what the Walker Memorial, dormitories, gymnasium, and athletic facilities should be. The attention that is being given to the social and athletic side was received with applause. It is evident that the time is coming when the Institute is to offer to its students, perhaps greater social advantages than any educational institution in the country.

Mr. Fay spoke briefly of the advances along educational lines, including the new course in business administration which is now being investigated.

One of the features of the evening was a magician who, seated among his audience, performed most unaccountable miracles.

### Tech to Get Pratt Money

The will of the late Charles H. Pratt has been declared properly and legally executed by a supreme court jury, and the Institute will get the \$750,000 left it for the founding of the "Pratt School of Naval Architecture and Marine Engineering."

The will was contested by ten first cousins of the testator, who was a prominent Boston lawyer.

### Professor Taylor to Advise

Prof. James Knox Taylor of the department of architecture of Tech has been selected as advisory architect for the Student Alumnae building at Wellesley, \$32,000 of the necessary \$150,000 having already been raised toward the project by the Wellesley alumnae.

## Potlatch Extraordinary

When it was decided to substitute another form of entertainment for the annual Pop Concert which has been given for a number of years in Symphony Hall, the committee in charge were impressed with the possibilities of making this affair very much more than the Pop Concert could ever be, and they have been making plans for the celebration, June 10, on a very large scale.

Mechanics Fair Building has been engaged and contracts have been made with a decorating company to completely transform it somewhat along the lines of the decorations at special exhibitions, like the automobile show.

The floor which will hold 1,200 seated, will be provided with small tables, the grouping to be circular with the older classes in the center where there will probably be a small stage for special acts. The galleries will be reserved for ladies and friends of the alumni.

The entertainment will partake of the features of the café chantant, cabaret, and kommers and there will be something doing from the tick of eight o'clock until the closing time at ten-thirty.

The First Corps of Cadets Band has been engaged and Mr. Sheehan of the Eastern Yacht Club will provide his corps of waiters. The senior class will march in as usual and will be welcomed by the president of the Alumni Association who will present the class with its alumni banner. The class of '88 and the class of '93 and other celebrating classes will also be honored. It is not proposed to have the program interfere with the sociability of the occasion. It will be a Technology "get together," and will take the place of the annual dinner in Boston which was omitted this year, and will especially attract the younger men.

We are not permitted to give details of the program but it is sufficient to say that the committee has arranged for a unique and original entertainment, the like of which has never been seen before, and although the hall is of ample capacity, it is expected that the attendance will tax it to the limit.

## Monthly Meeting of the Council

The last monthly meeting of the Council was held on April 21, at the Engineers Club, about thirty-five members being present.

The business before the meeting was as follows:—Postponed action on the question of raising the dues of the association, report of the Walker Memorial Committee, report of the Pop Concert Committee, report of the special committee appointed to consider financing student athletics.

The postponed action on the question of raising the dues of the association was first taken up; the secretary reading correspondence from the Technology Club of New York and the Intermountain Technology Association of Salt Lake City in reference to this matter. The suggestions of other local associations were also reported, all of them being opposed to raising the dues. It was voted by the Council that the dues of the association should not be raised at present. A suggestion was made by the board of governors of New York that "sustaining memberships" be established, this honorary roll to be composed of former students who voluntarily contribute ten dollars a year in place of the regular dues. After some discussion the matter was referred to the Executive Committee.

Mr. George Glidden, reporting for the Pop Concert committee, stated that the celebration will be held at the Mechanics Fair Building, Tuesday, June 10. The price of tickets will be one dollar for the floor and seventy-five cents for the balcony. It is planned to give a cabaret show, which will include a number of excellent specialties to be contributed by undergraduates and others; the music to be popular in its nature. It is expected that this innovation will prove popular and will draw a very large attendance, as many of the objectionable features of the annual Pop Concert will be removed and there will be ample opportunity for mingling on the floor without crowding.

The special committee appointed to report on the financing of student athletics, made a report through its chairman



Dean Burton. He stated that the matter had been put up to the students and that they had met the committee more than half way.

H. W. Tyler, '84, presented informally an extended report from the special committee on the Walker Memorial, Gymnasium, etc., with lantern slides showing new plans prepared for the committee. The full text of this important report will be published in the next REVIEW. Dr. Tyler also reported, as chairman of the alumni Walker Memorial committee, that the report just presented had been discussed in joint meeting of the two committees, and its recommendations approved by the alumni committee.

On motion it was voted that the Council express its general approval of the report.

Dr. Tyler further stated that the committee had been much interested in the question of securing the preparation and publication of a simple and popular biography of General Walker in connection with the erection of the Memorial. It was voted to appoint a committee of the Council to consider and report on this matter.

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### The Fraternity Housing Problem

One of the serious problems that the fraternities at the Institute will meet is that of housing when the removal to Cambridge is made. Much trouble is being experienced by the different fraternities in obtaining land. They are denied the privilege of building on the campus as that is now overcrowded. To the proposition before them of housing in the several dormitories there seems to be much objection. The fraternity men are desirous of running their own kitchens after the manner that they have been doing in their houses. Some of the fraternities here have practically agreed that unless this condition is granted they will not consider the plan of housing in the dormitories. However it looks as if about half of the frats will take quarters in the dormitories.

A committee consisting of one member

from each fraternity has been formed to consider this question and consult with the committee on student housing. This inter-fraternity council is acting as expressive of the ideas and feelings of the different frats but no definite action has been taken by it as yet. A suggestion has been made by it, however, to the housing committee that if they (the fraternities) were to take a sufficiently long lease of a dormitory section that they be allowed to plan the interior of the building occupied by them. No action has been taken on this suggestion.

It is known at least one fraternity has made a contract for building off the campus. Its chapter house is to be on the Esplanade just above Massachusetts avenue. This is the only case where any definite action has been taken although some of the fraternities have options on land near the campus and others are known to be looking for situations for their houses.

The cost of building is perhaps the most serious phase of the problem that is met with. Estimates have been made but these run well up into the thousands, the building and equipment of one of the proposed houses reaching a total of approximately thirty thousand dollars. Various plans for raising the required amount have been discussed at length by a number of those who are most actively interested, but the most practical one is of sending out a general appeal to the alumni members of the fraternity. The active members of the frats are not able, except in rare cases, to provide the necessary amount of money and so cannot be counted on to meet the expense.

This question of fraternity housing is a question that a large number of men are seriously interested in as a very large percentage of Institute men are members of fraternities. Out of 1,611 students of the Institute 496 are fraternity men, thus making a total of over thirty per cent. The freshmen of the fraternities are the ones that will be most affected by the housing problem and they are taking a very active part in the discussions of the questions. *The Tech.*

# AN INSTRUCTIVE REPORT

## Full text of the report of the Committee on Student Housing to the Alumni Council

### PART I

The committee making this report was appointed in April, 1912, by James W. Rollins, then president of the Alumni Association. At a meeting on May first at the home of Doctor Maclaurin, the committee was officially recognized by the President of the Institute as an advisory body. It has been the duty of the committee to study all phases of the problem of housing the students upon the removal of the Institute to its new site, and to make to the Council its recommendations and to submit data regarding the same.

### PART II

#### GENERAL PROBLEM

Our problem is to plan for the home life of those students who do not live with their parents in such a way as may best bring moral and physical healthfulness to the student body, and thereby promote manliness and scholarship. The solution will be found in providing:

Healthfulness—moral and physical.

Uniformity or democracy of service with freedom of choice where possible.

Simplicity and economy with attractiveness.

Freedom of action limited by real regard for others' rights.

Constructive and not destructive living.

### PART III

#### CONDITIONS, DATA, ETC., INVOLVED IN THE SOLUTION OF THE GENERAL PROBLEM

*Table Indicating Number of Students at Present and Ten and Twenty-five Years Ago, with Suggestions as to Numbers Ten and Twenty-five Years Hence*

	87-88	02-03	12-13	10 years hence	25 years hence
Total enrollment	720	1,608	1,611	2,000	2,500
Number fraternity members.....	42	274	414	500	625
Per cent. of total..	6	17	25	25	25
Number living in fraternity houses	...	...	248	400	500
Per cent. of total..	...	...	15	20	20
Number living with parents.....	383	702	685	850	1,063
Per cent. of total..	53	44	42.5	42.5	42.5
Number boarding.	337	896	926	1,150	1,437

The number of students increased from 720 in 87-88 to 1,608 in 02-03. During the past ten years, however, the number has remained stationary, but shows some tendency to again advance. A conservative estimate of the probable registration ten years hence would be 2,000, and twenty-five years hence, 2,500. Our plans should be for an ultimate enrollment of at least 2,500, and preferably for 3,000.

The percentage of total enrollment in fraternities has shown quite a steady increase, averaging about 8/10 of 1 per cent. per annum during the past twenty-five years. This increase is not likely to continue during the next five years if the recommendation of this committee should be followed to debar freshmen from membership in fraternities until the latter portion of the academic year. After that it is not clear whether the tendency to increase would be resumed. Our estimate above assumes no change in the percentage of fraternity membership ten and twenty-five years hence. The percentage of fraternity members living in fraternity houses will probably increase in the next ten to twenty-five years.

#### DATA COMPILED FROM "TECHNIQUE" STATISTICS OF THE PRESENT JUNIOR CLASS

Favorable to dormitories.....	76%
Unfavorable to dormitories.....	24
Favorable to commons.....	85
Unfavorable to commons.....	15

	Per week	Institute year (36 weeks)
Average cost of board of those reporting.....	\$5.14	\$185.00
Range { minimum.....	3.00	108.00
{ maximum.....	9.00	324.00
Average cost of rooms of those reporting.....	3.40	122.00
Living alone (45%).....	3.60	130.00
Living with others (55%).....	3.24	117.00
Range per student { minimum.....	1.50	54.00
{ maximum ..	6.00	216.00

The undergraduate Walker Memorial Committee appointed by the Institute Committee has estimated the average present cost of room and board and room area occupied by present members of the junior and senior classes as follows:



	Per week	Institute year (36 weeks)
Average cost of board.....	\$5.38	\$194.00
Room rent of those living alone ..	4.00	144.00
Room rent of those in pairs.....	3.50	126.00
Average room area { single.....	270 sq. ft.	
double.....	400 " "	

*Student light used at present:*—Those juniors reporting to *Technique* were classified as follows:

Light used for night study by those reporting, gas, 71; electricity, 19; oil, 9.

The above indicates that the great majority live in the older buildings, as the most modern are electric lighted.

The same students reported hours of retiring and rising as follows:

Majority retire between 11.00 p. m. and 1.00 a. m.

Majority rise between 7.00 a. m. and 8.00 a. m.

*Character and means of present students:*—They are serious-minded and earnest, but immature. Whereas they would average rather low in financial resources, it is quite probable that those who come from a distance and, therefore, would room and board upon the campus, would average in means fully as high as those attending most classical colleges in this section of the country. Our students, therefore, are probably a cross between the youthfulness and financial worth of the average classical college student and the earnestness and studiousness of those attending graduate professional schools.

*Area and location available:*—The committee has considered it necessary in studying and making recommendations upon dormitory and dining-hall details to study also the more general features of area and location. The total area of the new site is approximately forty-eight acres. For dormitories alone, it is improbable that over 1/6 of the area of the present site would be available. That would be about eight acres.

It has been necessary also in studying the area and location to work as far as possible with other individuals or bodies who have been planning other functions, namely, officials and representatives of the Institute planning the educational buildings, and the Walker Memorial Committee which has been working upon details of the Union, gymnasium, athletic field, etc.

*Data available regarding other colleges, universities, etc.:*—The committee has had at its disposal and has studied data gathered and classified by J. H. Scarff, '10, also data compiled under the direction of John R. Freeman, '76.

The committee has also sought and obtained opinions, data and suggestions from the Alumni Council, class secretaries, selected alumni, undergraduates, members of the Corporation and the Faculty, and not only from such members of the Institute, but other institutions of learning. We express herewith our thanks for all such painstaking help.

## PART IV

### LOCATION

There are three possible locations for the dormitories as follows, named in the order of adaptation to the purpose:

1. Along the esplanade.
2. The interior, away from the side and rear streets.
3. Bordering upon the side or rear streets.

These three general locations line up in this way simply because in the order named they would provide that moral and physical healthfulness to the student occupants, which is essential to the development of manliness and scholarship. In this order our dormitories would get the greatest amount of fresh air, sunlight and attractive and inspiring outlook. In the order named, too, the social influences would be the best.

From an architectural point of view, there is naturally objection to putting dormitories along the esplanade, where, for effect, large and imposing buildings, such as the "administration building," would probably produce a better architectural effect from across the Basin and elsewhere. However, it is not without possibility that the dormitories might be made to produce a similarly attractive architectural effect. It would be undesirable to put any dormitories on the esplanade unless the major portion of them could be there, as it is extremely desirable that all student accommodations should be as nearly alike as possible in service and location, varying only in area. The possibility of a "gold coast" should be avoided.

An interior location would next best fulfill the requirements above cited. However, such a location conflicts too much with the proper planning of other features, notably educational buildings and athletic field, and, therefore, unless the location along the esplanade should prove best adapted to the whole building problem, it is probable that a combination of the second and third locations mentioned will prove to be the best adapted to all features of the problem. This would mean placing dormitories along one of the side streets, in the form of a long, double row of buildings with a large open space be-

tween them running parallel to such street. This enclosed space might properly be cut up into quadrangular courts by dormitory buildings running perpendicular to the main dormitories just mentioned, and in that way not more than one fifth or one sixth of the dormitory rooms need overlook the street. The outer building line should be twenty feet back from the street line and the property should be separated from the street by a suitable fence of masonry and iron.

Wherever the dormitories may be placed, the location of the dining hall, Walker Memorial and gymnasium, should be such as to encourage the greatest use of those buildings by dormitory students.

## PART V

### DORMITORY DETAILS

*Numbers to be provided for:*—Reference to the data given in Part III indicates that under present conditions there are 926 students, including those living in fraternity houses, who rent rooms in or about the city,—248 in fraternity houses, and 678 outside. Assuming as correct the data as to the percentage of undergraduates favoring dormitories, as calculated by the junior class referred to in Part III, and assuming that only those students who are favorable would take rooms in institute dormitories, also assuming that no fraternities would be housed upon the campus, we would have a minimum of 508 students for whom dormitories should be provided at the start. The necessity for additional provision is a factor that will be determinable—

- a. By actual agreements with specific fraternities, clubs and other organizations with which the Corporation might close rental arrangements; and,
- b. By the actual demand due to the successful conduct and working of the dormitory system.

Assuming that half the fraternities would enter the dormitory scheme, plans should cover initial provision for 632 students.

In order to fill the demand for student rooms twenty-five years hence, on assumptions previously made, dormitory space for a minimum of 1,250 students should be planned for. This would provide room for all but 250 students not living at home, out of a total enrollment of 2,500.

*Dormitory types:*—There are two general types of dormitories, as explained in an article in the TECHNOLOGY REVIEW for January, 1913, entitled, "A Plan for Student Housing." These types are—

1. The stairway type.
2. The hotel type.

Dormitories of the stairway type are built in general plan similar to blocks of city houses, with a limited number of rooms opening off a separate stairway with separate exterior entrance. Those of the hotel type are built in large blocks like hotels, with or without elevator service, and with large numbers of rooms or suites opening off of the large main hallways, which directly communicate with all rooms or suites in the same building.

We strongly recommend the use of the stairway type because it is the type most generally endorsed and most generally used by the leading colleges and universities in this country; also because it best seems to solve the student housing problems peculiar to the Institute.

The stairway type necessarily divides the student occupants into small groups, and thus ensures the advantages of close intimacy, and household friendliness, and avoids the individual loneliness as well as the "rough-housing" of large groups. Besides offering these advantages after construction, this type also offers obvious and important advantages during the period of development, allowing for great flexibility in design and provision for new demands and requirements.

At Princeton will be found the best general equipment of stairway dormitories in this country. These buildings, however, would not be particularly appropriate for our needs, which require greater simplicity of design, construction and furnishing, and a more economical use of land areas. At the University of Pennsylvania a dormitory system is found which comes nearer to solving our problems and fitting our needs, than the dormitory system of any other university or college in this country. We have, therefore, for data regarding dormitory details referred freely to the dormitories of the University of Pennsylvania.

*Classification:*—Dormitory sections should differ materially as to the number of men accommodated and, in this respect, might be divided into three classes, as follows:

1. 4 students per floor (4 to 5 stories), 16 to 20 men per stairway.
2. 6 students per floor (4 to 5 stories), 24 to 30 men per stairway.
3. 8 students per floor (4 to 5 stories), 32 to 40 men per stairway.

While the architectural requirements will necessarily provide some considerable variety in accommodations, it is desirable that different stairways should contain various combinations of single rooms, and single and double suites.

Although we refer to the question of service later, we should state here that the quality or character of the room furnishings and of the service provided for the care of rooms, etc., should be uniform throughout the whole system, as far as possible.

*Floor area per student:*—A study of areas actually in use by Technology students today and of average areas in use by students at other institutions indicates that a safe figure to use in estimating the floor area of dormitories required would be 325 square feet per student. This would cover everything,—halls, stairways, basement, etc., as well as the study, bed room and bath, and would be divided about as follows:

Bed room.....	100 sq. ft.
Study and dressing room.....	110 “ “
Bath.....	25 “ “
Halls.....	40 “ “
Basement.....	50 “ “
Total.....	325 sq. ft.

*Ground area per student:*—Dormitories of four to five stories and basement would cover a ground area of about seventy-five square feet per student. It would take  $1\frac{3}{4}$  to 2 feet of length of sectional dormitories four to five stories high to house one student.

*Total areas:*—About 25 per cent. of the total land area provided for the housing of students may be covered with dormitories of the stairway type, and sufficient open areas left for sunlight, air and some such healthy outdoor sport as tennis. On this basis it would take about one acre to accommodate 150 students. The area devoted to dormitories at Pennsylvania, without including any part of the street area which borders three sides, figures about one acre to 200 students. Figuring 150 men per acre, we would require about four acres at first, and eight acres at the end of twenty-five years.

*Furnishing of dormitories:*—Every room should be supplied with the “main pieces of furniture,” as at Pennsylvania and other places studied. Bedding should also be provided, and probably towels.

*Physical exercise and hygiene:*—In addition to whatever provision for physical exercise may be available to dormitory students in the gymnasium, athletic field and Walker Memorial, every reasonable inducement should be offered the dormitory student to partake of healthful exercise, and, therefore, we recommend such a planning of the open spaces in and around the dormitories as will make possible the largest number of tennis courts

and anything else that would induce outdoor exercise.

Similar careful attention and planning should be given to all physical features affecting hygiene, such as plenty of fresh air and light, both natural and artificial, and the very best of plumbing. Some of the latest dormitories provide separate bathrooms for each double suite. Others, as at Princeton, confine all plumbing to the basement. The weight of authority and best practice, both for convenience and economy, make us recommend a bath-room ample of size on each floor to be used in common by all those rooming on that floor.

*Rooms:*—In the Pennsylvania dormitories are found practically all the kinds of rooms known to dormitory life in America. They are classified by that university in seven groups. To meet our conditions, and especially in the beginning, we advise a much simpler classification by the elimination of four out of the seven groups. We disapprove of suites with private bathrooms: we disapprove of suites for three occupants; we decidedly disapprove of single rooms for double occupancy. We, therefore, advise confining rooms to the following three classes:

1. Single rooms for single occupancy.
2. Suites for single occupancy.
3. Suites for double occupancy.

*Bathrooms:*—Ample provision should be made for all men on each floor of each stairway in a single bathroom or lavatory opening off the hallway.

*Fireplaces:*—All studies and single rooms should have fireplaces, as far as consistent with reasonable economy.

*Sleeping rooms:*—Approximately one third of a man's time is spent asleep, resting and recuperating mind and body. Not more than one third of a student's time is spent at work in his study or room. The Dean and others have stated that our students do not get sufficient sleep nor occupy sufficiently healthful sleeping quarters. For these reasons particular attention should be paid to designing and providing the best and most healthful sleeping rooms possible. In practically all dormitories thus far built in this country, as far as we have been able to study them, we believe insufficient attention has been paid to this feature.

It is not too much to expect that a room in which a man spends eight hours out of the twenty-four, for the single, particular purpose of resting and reviving mind and body, should be designed specifically and primarily for that purpose, and features for all other purposes made subordinate thereto.

The essential requirements for the most healthful sleeping room, in our judgment, are—

1. Maximum of fresh, outside air, especially during the night, but also at other times.

2. Freedom from disturbing noises and influences.

These requirements may best be filled by rooms in which the finish of walls, window casings and floors would be practically weather proof, and in which the largest possible proportion of the exterior wall area might be opened to the outside air; and yet so that the occupants might, when necessary, protect themselves from unusual weather conditions, such as storms, high wind or extreme cold. No provision for heating these rooms need be made, but the piping should be so arranged that they could be easily heated later if desired. In a suite for double occupancy, where the amount of total available space is limited, it is more important that a warm room be provided for dressing, even if used jointly, than that separate sleeping rooms be provided for each occupant. Such a plan would also give the greatest variety of accommodation. In like manner, it may prove more important in the case of a suite for double occupancy to entirely cut off the sleeping room from the study by interposing a dressing room than it would be to use those two rooms as separate sleeping rooms opening out of the study.

Hence, notwithstanding the fact that we find no precedent in any of the colleges in this country for what we may term "fresh air sleeping rooms" in dormitories, we do not hesitate unqualifiedly to recommend the planning of all suites, whether for single or double occupancy, with sleeping rooms as described above. If, in particular cases, such rooms should be found unsatisfactory, they could, with little or no change, be used as, or made over into, sleeping rooms of the ordinary type.

Undoubtedly there will be a demand and necessity for single rooms for single occupancy to which it would not be possible to apply this special sleeping room design. From a study of the proportion of single rooms, single suites and double suites in other American colleges, and from studying our own conditions, we recommend for the initial installation, making provision as to the different classes of rooms for the student occupants in approximately the following proportion:—

25 per cent.—occupants in single rooms.

25 per cent.—in single suites.

50 per cent.—in double suites.

*Arrangement of rooms on floors and in buildings:*—We show separately various suggestions not only for arrangements and sizes of rooms in suites and singly, but also as they might be arranged in different cases for a single floor in a single stairway. Arrangements of rooms should differ within reasonable limits, also the planning of each stairway should differ somewhat from others, both for the sake of variety and in order to provide for desirable differences in the number of students per stairway. We have not thought it necessary to suggest or recommend in detail any particular floor plan or stairway plan. That is work for the architect and, naturally, will be determined by the area and shape of the ground to be covered and the general ground plan of the dormitory system.

However, in our judgment, each room and suite should be planned for the maximum of air and sunlight, and the three different classes of accommodation should be distributed between different portions of the system, so as to give each occupant as nearly as possible the same amount of air and sunlight. For instance, the location of single rooms should be confined to portions of the system which do not run east and west, in order to avoid single rooms on the north without sunlight. Double or single suites could be located in such places in such way as to bring the studies on the north side and sleeping and dressing rooms on the south. The same considerations should be applied in the case of exposure along and close to a public way, such as Massachusetts Avenue. In that case, studies should be located on the street side and sleeping rooms and single rooms, etc., on the inside.

*Type of construction:*—This is a matter upon which, perhaps, we should make no report. However, there are three types that might be considered in the order of cost, namely—

1. Masonry walls with wood frame partitions and floors.

2. Masonry walls, fireproof partitions, floors, wood construction with plastering on metal lath.

3. Masonry walls, with floors of concrete or terra cotta on steel frame.

We would be decidedly opposed to the consideration of the first type. The third type would, of course, be the best, if the cost should prove permissible. The second type would have the advantage of lower cost, without undue fire risk. Should this type be adopted, however, it is our judgment that no walls anywhere should be made of frame or joist construction.

In any case, we recommend that all stairs and hallways be strictly fireproof.

Should the third type be adopted, the top-flooring of single rooms, studies and dressing rooms should be of wood or thick linoleum. The latter would have the advantage of being quiet and sanitary, but perhaps not sufficiently durable.

#### SOCIAL FEATURES

*General grouping:*—Both the physical and social unit in the dormitory system previously outlined would be a stairway or a house of the city block type, accommodating anywhere from fifteen to forty men. The allotment of rooms in each unit must naturally be made directly or indirectly by an officer of the Institute, and it must be for the Institute to define in just what manner this would be done. In order that the life of the students may be of the pleasantest and most beneficial kind, those occupying the same stairway should be as congenial as possible,—men of similar tastes and aspirations. It seems best, however, to mix the members of the four different classes as much as possible. By this means the younger men would get the benefit of the sobering influence and counsel of the older men, and, on the other hand, the members of the older classes would get the benefit that always comes from helping and advising the less experienced.

The other policy, namely, that of housing classes by themselves, is followed by some institutions. Harvard, for instance, is just about to build dormitories for freshmen alone. The more general practice, however, is to mix members of classes in dormitories as much as possible, and it is the general opinion of the majority of our alumni and undergraduates with whom we have consulted, that this would give us the best results.

Should this plan be followed, however, it might be found a little later on that the number of freshmen would be so large in proportion to the members of other classes occupying dormitories not rented to fraternities, clubs, etc., that it would be desirable to house the freshmen by themselves.

*Lounges or living rooms:*—Except in the case of stairways that are arranged especially for fraternities, clubs, etc., we recommend that no "lounges" or living rooms for general or common use be provided. The reason for this is that ample provision for all social gatherings will be found in the Walker Memorial. The majority of our alumni and undergraduates, with whom we have consulted, are of this opinion. The most successful dormitories at other colleges which we have studied have no common lounge rooms.

The same is true of dining accommodations to which we refer in detail later.

*Supervision and control:*—The conduct of the dormitories should be in direct charge of an officer of the Institute of Faculty rank, assisted, however, in supervision and maintenance of order by some form of student dormitory council.

The assignment of one or more stairways to unmarried instructors, who desire to live on the campus, would be a feature of the social life of the students, which they would learn to appreciate, and which would be helpful in keeping the undergraduate body in closer touch with the Faculty.

*Religious life:*—Religion is the essential foundation of good morals and right living. A religious atmosphere or attitude, therefore, should be developed, with absolute impartiality to any particular belief, whether such belief be Christian, Hindoo or something else.

It is beyond our province and our ability to suggest in just what manner this religious atmosphere should be developed. It should, however, directly receive the attention of the proper officials of the Institute.

The Technology Christian Association, acting in an absolutely independent capacity, might be a material factor for good by renting a dormitory section as a club, possibly with its executive secretary making his residence therein. It might also undertake the conduct of regular Sunday morning or Sunday evening meetings in the auditorium of the Walker Memorial, arranging for eminent and able preachers of any and all beliefs to appear.

#### FINANCIAL

*Cost of buildings:*—For the tabulation of the cost of dormitory buildings in other colleges we refer to the classification of the Freeman reports. Again we find Pennsylvania the best example for our consideration, where the average cost of dormitories of four and five stories in height and accommodating a total of 900 students was \$1,080 per student. The average given in the "General Summary" of \$2,378 for all institutions included in the reports is not of particular value in connection with our problem. Included in that average are numerous dormitories of a very expensive character, such as the "Vanderbilt" dormitories at Yale, accommodating a total of only 112 students and averaging about \$4,500 per student.

One of the most interesting examples in this vicinity of a strictly fireproof residence building of low cost is found in "Charlesbank Homes," a building which, complete, ready



for occupancy, cost 23c. a cubic foot. The finish is too plain and the building is too lacking in architectural features to be copied for dormitory use, but it nevertheless illustrates what we might expect to build for slightly more, say 30c. a cubic foot.

Another interesting example is found in the contract cost of 20c. a cubic foot for two new fireproof dormitories at Dartmouth, with interesting features of construction. The buildings are three and a half stories high with a roof built partially of wood. The main partition walls are four-inch brick—other partition walls are of 2-inch metal lath and plaster. Floors are of concrete. Plastering is to be put directly on the interior brick or concrete walls.

Judging from the cost of the Pennsylvania dormitories and from a study of the "Charlesbank Homes" and very recent data from Dartmouth, we believe dormitories of a fireproof or semi-fireproof character, such as we would desire, can be built at a cost of \$1,050 per student occupant.

*Furnishings:*—We estimate the cost of providing the "main pieces of furniture," bedding, etc., at \$150 per student.

*Rental:*—Refer to the "Summary of Dormitory Details" for room rental charges in other colleges. Refer to Part III of this report for room rentals being paid by our undergraduates.

*Cost of operation, profit, etc.:*—We have not investigated the cost of operating and maintaining dormitories in other institutions, nor the profit or loss accounts. From our statement of probable cost of building and probable rentals, we believe that, with a cost of \$1,200 a student for buildings and furnishings, a rent of \$120 a year, or 10 per cent. of the cost, can be safely counted upon. Allowing 4 per cent. to cover cost of operation, service, maintenance, repairs, etc., it would leave a profit of 6 per cent. upon the investment above the land.

*Total cost:*—Over and above the value or cost of the land it would cost \$600,000 to build and furnish the minimum equipment (for 508 students) with which we should start. The probable initial requirements (for 632 students) would cost about \$750,000. To fill a possible initial demand (750 men) it would require \$900,000.

The wherewithal to build these dormitories is not a problem specifically before us. We wish, however, again to emphasize the necessity for inaugurating our own dormitory system with the opening of the educational buildings upon the new site. The building of dormitories should not be delayed for lack

of funds specifically donated, subscribed or appropriated for that purpose. Well-designed, well-conducted, modern dormitories of the stairway type certainly can be counted upon to yield a net profit of 4 per cent. to 6 per cent., and would provide either proper security for money borrowed to pay for the cost of buildings, or a proper investment for funds of the Institute held for endowment or other purposes. Instances can be cited in conservative college finance where the employment of endowment funds in this way has been approved by the trustees and where results have justified the practice.

## PART VI

### DINING-ROOM DETAILS

As in the dormitory life it is desirable to foster the intimacies that are attained through breaking up into small groups, so, in the provision for dining accommodations, it is wise to plan, at least in part, for similar grouping. The meal hour, however, furnishes an excellent opportunity for that general bringing together of the body of students which too great segregation into special groups tends to destroy. There should be, therefore, a central building, or "Commons Hall," with rooms for groups of varied size, yet so intimately related that a natural mixing would result. There should be, not only several relatively large rooms, but also numerous smaller closely connecting rooms, or alcoves, providing for special meetings of varying numbers.

It is particularly desirable that this meal-time association should include, not only the student body, but also, as far as possible, members of the instructing staff, alumni, and visitors. While the many advantages of the use by all of a central dining group are fully recognized, your committee is of the opinion that it would be undesirable to make this a requirement. For the special needs of certain fraternities, societies, or clubs, provision might be made for separate dining rooms in some of the dormitories or stairways. To a considerable extent these special requirements may be met by the facilities afforded in the Walker Memorial Building, which should be near, if not directly connected with the "Commons Hall." This proximity should make possible the use of the "Commons" kitchen for the needs of the Walker Memorial, requiring only a smaller auxiliary kitchen, or serving-room, in the latter building. Some form of continuous covered passageway should be provided, which would not only bring the various dormitories into more intimate relations, but also furnish for all attractive and

easy access to the "Commons Hall" and Walker Memorial. Such an intimate connection with the central dining room would enable fraternities, clubs, or other groups, desiring separate table accommodations, to secure the privilege without the expense of maintaining separate kitchens and dining rooms, and at the same time would enable such groups to join more effectively in the general activities.

In so far as is consistent with proper regard for economical operation, duplication of the home table and environment should be constantly kept in mind. Service of the following types should be provided:

- Board by the week at not over \$5.00.
- Table d'hote of good quality, but of low cost by reason of simple service, good planning, and efficient management.
- Lunch counter, or caf  teria.
- Accommodations for students who bring lunches.

The last should include gas heating appliances for warming of drinks, also, if possible, provision for the preparation of the simplest dishes, and should be near the lunch counter, facilitating purchases therefrom to supplement the home-prepared lunch.

Taking as a basis a student population of 2,000, the requirements for the different types of service are estimated as follows:

1. Table d'hote service on the basis of 20c and 25c luncheons, including 200 in small rooms or alcoves for special tables, societies, committees, etc...	700
2. Caf��teria or lunch counter.....	350
3. Accommodations for those bringing lunches.....	250
4. Lunching elsewhere, off the campus or in the Walker Memorial.....	700
	<hr/>
	2,000

A two-story building, with basement well above ground and abundantly lighted, is recommended as meeting most satisfactorily the general requirements of the "Commons Hall." The building should be simple in design and in all its appointments. To provide for the number upon which our estimates have been based, a building covering approximately 10,000 square feet of ground area would be required, and we estimate that such a building might be erected for \$150,000. The basement should provide space for kitchens, servants' dining room, store rooms, the lunch counter and caf  teria, and a room for those bringing lunches. On the first floor should be the larger main dining rooms, with centrally located serving-room, and on the second floor

numerous smaller rooms of varying sizes, as well as suitable facilities for service. The main dining rooms on the first floor perhaps three in number, each accommodating approximately 200, should be arranged to permit of use in combination, providing for gatherings of, perhaps, 500, thus furnishing accommodations for alumni dinners, society meetings, etc. By combination of the second floor rooms, or by means of sub-dividing the main dining rooms, the requirements of the somewhat smaller gatherings of from seventy-five to one hundred could be easily met. The larger rooms should be designed for convenient sub-division by screens, or special partitions, to be rolled out of the way when not required. This sub-division would also assist in reducing the noise and confusion of the large dining hall. In the smaller rooms, or in alcoves, or sections of the main dining rooms, easily cut off by screens as suggested, there should be provision for, perhaps, ten small groups of from ten to fifteen each, and as many groups of from twenty to twenty-five each. These rooms should be arranged in groups and so constructed that they might be conveniently thrown open to accommodate parties of varying numbers. For the main dining rooms, the committee is of the opinion that tables seating ten persons will be found most economical as regards service, but it is recommended that there be provided a reasonable number of small tables, seating two and four persons each. There should be provided for ice-making and refrigeration an ample plant with sufficient storage for large quantities of meats and provisions, so that purchases might be made in very large quantities, even in carload lots, if necessary, to secure the greatest economy. Space should also be provided in the building for suitable coat rooms and toilet rooms, unless such accommodations can be conveniently supplied in, or along, the passageway connecting with the dormitories and Walker Memorial.

Of all the institutions drawn to our attention, the "Cadet Mess" of the United States Military Academy at West Point furnishes the best examples, both of equipment, and details of organization and management. Much valuable information will be found in Mr. Freeman's report on this academy. Of particular interest will be found the design and arrangement of dining rooms, service, and kitchen.

In the report on Memorial Hall at Harvard will also be found suggestions that should prove of value in determining many details of administration. Mr. Kebbon's special report on dining rooms prepared for this

committee also contains much valuable information.

Effort should be made in every particular to provide service which will preclude the necessity of the students going off the ground for their meals. Of interest in this connection is the report from Memorial Hall, Harvard, on the attendance of the past three years. The report states that the attendance of 1,100 may be divided approximately into four groups:

"1st—About 400 will eat in Memorial almost certainly.

"2d—About 300 more will eat in Memorial if the food is good.

"3d—About 200 more will eat there if the food is very good and if the price is less than good food elsewhere.

"4th—About 200 more who start in at the beginning of the season will continue on with good food and right prices, but who will leave anyway as soon as there are inducements elsewhere, such as social connections, clubs, etc."

It is assumed that the luncheon service establishes the maximum requirements and that the question of relative accommodations for the other meals is a detail principally of administration and having less important connection with the physical requirements. For this midday meal, taxing the seating capacity to the greatest extent, no effort should be made for special grouping, but for the dinner at night special provision should be made, separate tables provided, and every encouragement offered, for bringing together in groups, students having interests in common as, for example, the various engineering societies, the different clubs, athletic groups, etc. Such grouping in the larger dining room, as well as in the connecting smaller rooms, while serving to foster the very desirable intimate relations, at the same time, because of the close relation between the rooms, will not prevent the equally desirable general association. Music during the principal meal would prove an added attraction, and, as has been suggested, might be supplied by the various musical clubs.

While the constant changes in the student body, and the burden of close application to study, make it inadvisable to place on the students the entire administration, it seems reasonable to depend on them for the general regulation of the "Commons," and their responsibility should be extended as far as is possible. The employment is strongly recommended of a high grade man as a director, with ability, not only to administer the department, but also, so far as is needful,

to instruct the students in such affairs. It is possible that the same officer might also be charged with the general supervision of the dormitories. Such a director should be a member of the Faculty. Under his direction should be placed the store for supplying the various departments of the dining room service, and included in his charge might also be a general coöperative store. We believe that the running expenses, supplies, pay-roll, renewals of equipment, etc., indeed all expense save interest on the cost of the building, should be met by the charges for meals and service.

## PART VII

### FRATERNITIES AND CLUBS

We will divide this part of our report into the following divisions:

1. Fraternity problem in the new Technology and data regarding same.
2. Relative standing of fraternity and non-fraternity men in Technology.
3. Possible solutions of problem.
4. Graduate and undergraduate opinion.
5. Relation of other student social organizations.

#### 1

### FRATERNITY PROBLEM IN THE NEW TECHNOLOGY

The question of housing the fraternities in the new Technology constitutes an exceedingly important phase of the development of our new undergraduate life.

Your committee feels strongly that in considering the question of housing the fraternities the Institute should endeavor to outline such a system of dormitory living that the fraternities can be made a definite part of the regular undergraduate life, that the very best of non-fraternity life as well as the very best of fraternity life can be retained so that the Technology students of the future may have all the possible advantages which can be derived from either system of living.

There are existing at the present time in the Institute nineteen chapters, fifteen chapters allied with national organizations and four local chapters, existing at the Institute alone.

All of these chapters occupy separate houses or suites of rooms and it is universally believed that the fraternity houses have solved the problem of living for their own men in the old Technology with reasonably good results.

Of the foregoing list the following fraternities own equities in the houses which they occupy to the amounts as indicated below.



Chi Phi.....	\$19,000.00*
Delta Kappa Epsilon.....	22,000.00*
Delta Upsilon.....	14,500.00*
Phi Beta Epsilon.....	24,000.00*
<hr/>	
Total .....	79,500.00

In addition to the above it is estimated as many as five other chapters own building funds which may average \$5,000 each, increasing the above figure \$25,000, giving a grand total of \$104,500.

It will thus be seen that fraternities control now and will control in the new Technology a very considerable amount of property.

The following table shows the percentage of fraternity men in the Institute as indicated.

Year	Fraternity Members	Per cent. Total
1887	42	8.9
1897	189	15.8
1907	363	25.9
1912	390	25.0

It will be noted that the percentage has increased from 8.9 in 1887 to 25 per cent. in 1912 and the number of fraternity men has increased from 42 in 1887 to 390 in 1912.

We feel that it is reasonable to assume with the superior accommodations which we will be able to offer on the new site that the percentage of fraternity members living in fraternity houses will show a tendency to increase during the next ten to twenty-five years. Inasmuch as this figure is now practically 27 per cent. as indicated by the above, we feel that 35 per cent. will represent a reasonable figure for the future.

The problem of housing the fraternities thus becomes 35 per cent. of our total problem.

2

RELATIVE STANDING OF FRATERNITY MEN TO NON-FRATERNITY MEN IN TECHNOLOGY

A. *Activities*.—Table indicating participation in Institute activities by fraternity men as indicated by number of points held in the points system.

Total number of students in activities	356
Total number of fraternity men in activities.....	143
Percentage of fraternity men to the total.....	41.5
Total number of points to be secured	1,856
Total number of points held by fraternity men.....	911
Percentage of total points held by fraternity men.....	49

\*Obtained from 1912 Edition of Baird's Manual of American College Fraternities.

By referring to the above table in this report it will be noted that the number of fraternity men in the Institute is 25 per cent. Inasmuch as 49 per cent. of the total number of points are held by fraternity men it will be seen that the fraternity men are practically 100 per cent. more active in undergraduate affairs than non-fraternity men.

B. *Scholarship*.—The only data we have on this subject is that collected by Mr. Humphreys and Professor H. P. Talbot in the year 1907–1908.

In this year, assuming 1 to represent the highest standing and 5 the lowest standing, we have the following facts:

Average standing of all students.....	3.06
Average standing non-fraternity students	2.95
Average standing fraternity students...	3.18

It will thus be seen that the standing of the fraternity students is slightly below that of the non fraternity students although there appears to be no marked difference between the two classes.

C. *Morals*.—Very little data is at hand regarding the general moral standing of the fraternity members. The following facts should be noted, however:

Thirty-five per cent. of the total membership of the Technology Christian Association for the year 1911 were fraternity members and inasmuch as the fraternity members as a whole constituted but twenty-five per cent. of the total enrollment it would appear that there were a greater percentage of fraternity men in T. C. A. than non-fraternity men.

During the present year Bible classes are being held in two of the fraternity houses and it is felt that more chapters will be interested in these as time goes on.

D. *General standing of fraternity men in other institutions*.—We are unable to obtain as definite data as is desired regarding the general standing of fraternity men in other institutions.

It is a generally recognized fact, however, that throughout the country national organizations in charge of the different fraternities are taking very definite steps to raise the standing of their chapters and their members in scholarship and in morals. It is recognized that the time is passing when the college fraternity can be considered merely as a social club. Fraternity leaders are very rapidly awakening to the fact that they have a definite duty to perform in educating their men and steps are being taken in practically all national bodies to raise the general standard of fraternity men in every possible way.

## 3

POSSIBLE SOLUTIONS OF FRATERNITY  
HOUSING PROBLEMS

This problem appears to have three possible solutions:

1. The fraternity men might locate in the main dormitory centre and thereby become a definite part of the general dormitory system and mix freely with all other students at all times.

2. Individual fraternities might proceed independently and purchase houses or individual lots of land apart from the Institute and the general dormitory system and apart from each other.

3. The fraternity men might, working co-operatively, finance the building of a block of fraternity houses on a location apart from the general dormitory centre, withdrawing in this way to some extent from the general undergraduate life.

*Discussion of Solution No. 1:*—If the fraternities locate in the general dormitory centre the following questions must be considered:

1. Should the chapters lease land from the Institute and build their own houses?

It is not to be expected that sufficient room will exist on the new site for such individual houses and this course is not a practical course to adopt as the fraternities would be unable to obtain a title to their property and for that reason would not be inclined to invest their money in the building.

2. Should the Institute make such provision in planning its dormitories that the fraternities on the completion of such dormitories can lease whole stairways from the Institute and if such provision be made, what plan should be made for

(a) Meals in dormitories.

(b) Lounge rooms in dormitories.

(c) Numbers to be accommodated in dormitories.

Assuming that it is found advisable for the Institute to adopt the stairway system of dormitory, as recommended in this report, we believe that it will be entirely practical for the different fraternity chapters to lease individual stairways and we believe that this scheme furnishes a very reasonable and practical way to get the fraternity men into the general dormitory system and into close association with the remaining students. Under this system any individual fraternity chapter, any individual club or any individual group of students could band together and lease from the Institute an entire stairway.

We suggest offering to equip such stairways with

(a) Individual lounge rooms.

(b) Individual dining accommodations.

While it is recognized that additional expense will necessarily be incurred by equipping individual stairways with dining accommodations, it is felt by your committee that it would be desirable to offer fraternity men this privilege, making the proper charge therefor in the lease price of the stairways. All social clubs, other than fraternities, of similar financial responsibility should be offered the same privilege.

Probably the average number of fraternity men to be accommodated in the dormitory stairways would be about twenty men. The average number of men to a fraternity chapter in recent years has been as follows:

1910	1911	1912
21.6	22.2	21.6

As each chapter contains probably a certain percentage of local men living at home, the number of men in each chapter to be housed would not exceed twenty.

It is felt that both the Institute and the fraternities would receive many benefits from such an arrangement as is outlined above:

a. The Institute would obtain a nucleus of known character for its dormitory system.

b. The Institute would have an opportunity to more directly influence the life of the fraternity members.

c. All Institute matters would receive the more direct coöperation of fraternity men.

d. The Institute would receive added financial return in caring for the larger number of fraternity students in its dormitory system.

We feel that the fraternities would receive the following definite advantages:

(a) *Definite financial aid:*—Inasmuch as they would not be forced to go to the great initial expense of building outside houses.

(b) *Help in operation of houses:*—It is felt that the fraternities could be greatly benefited by utilizing central Institute heating and lighting plants, by obtaining all provisions from a central commissary department and by gaining in other ways benefits which would naturally arise from coöperating with the other dormitories.

(c) The fraternities would be in very close physical proximity to the gymnasium, athletic field, Walker Memorial, libraries, and all administrative, and educational buildings of the Institute and obtain directly these conveniences.

(d) The fraternities would be in closer touch with the Faculty and officers of the

Institute and would thereby obtain the moral support of the Institute in disciplining their individual members.

*Discussion of Solution No. 2:*—If the fraternities should proceed independently to purchase land and individual houses apart from the dormitory center and apart from each other the following facts appear evident:

a. This plan would entail a very great initial expense and the individual fraternities would be obliged to assume debts from which it would take them a long time to recover.

b. The Institute would to a large extent lose the active coöperation of a large body of strong men represented by the different fraternities because under this plan they would spend less of their time and give less of their attention to the various Institute features such as the Walker Memorial, gymnasium, etc.

c. The fraternities, however, under this plan would have a certain privacy of operation which could not otherwise be obtained and probably with the fraternities living apart from each other and apart from the general student body there would be no class feeling between the fraternity and non-fraternity men.

*Discussion of Solution No. 3:*—We feel that it would be extremely unfortunate if the fraternities should adopt the plan of building co-operatively any group of buildings to be used exclusively for fraternity purposes as we feel that this would tend to increase very strongly the feeling between fraternity and non-fraternity men which has always existed in other institutions and to some degree in Technology and we also feel that such a method would tend to draw the fraternity men away from the other undergraduates and would engender and foster social exclusiveness in a way which would be extremely undesirable.

We feel that it will be advisable for the Institute to take official recognition of the fraternities as such and make certain rules regarding the life of the fraternity men.

a. *Freshmen in Fraternities:*—We feel that it is extremely undesirable for the fraternities to initiate freshmen during the early part of the first term as is done at present. We feel that in this way—

1. The fraternities do not have sufficient time to size up their prospective members.

2. The freshmen do not have sufficient time to size up the different fraternities which they may be asked to join.

3. That the freshman should not have his attention drawn from his studies and from other Institute work during the early part of the first year, as at present. We feel that there is a strong tendency at the present time for a man who joins a fraternity during the

first few weeks of his college career to become absorbed in his fraternity life and withdraw to some extent from the general Institute life.

4. If such a rule is favorably considered this will necessarily mean that the fraternity houses will consist of seniors, juniors and sophomores and that all freshmen must necessarily live outside of the fraternity houses. It is the opinion of this committee that this would be extremely beneficial both for the fraternities and for the individual men.

b. *Scholarship in Fraternities:*—We believe that the Institute by overseeing more carefully the scholarship of the fraternities can take steps to raise the scholarship of such men very greatly. We feel that a very practical method of getting this result will be to keep all students of the Institute informed by a public list of the scholarship standing of all fraternity chapters, such a list to be made up by computing the average record made by the members of the individual fraternities.

*Necessity for Immediate Action:*—The fraternities at the present time are unable to take any steps regarding the future inasmuch as they do not know the plan of the Institute for providing for the students in the new Technology and this committee urgently advise immediate action on the part of the Corporation.

## 4

## GRADUATE AND UNDERGRADUATE OPINION

For the last eighteen months a graduate council composed of alumni representing all of the existing fraternities in the Institute has met at different times and has discussed the general problem. In order to reduce the problem to a definite form, the council recently obtained a vote from all of the existing chapters on the following three questions:

1. Do you believe that the best interests of the fraternity men and of the whole student body of the Institute can best be served by locating the fraternities on the campus in quarters furnished by the Institute in which the accommodations would be suitable in every way for fraternity purposes and if such quarters were furnished would you be willing to consider renting such quarters?

2. Do you believe that the best interests of the fraternity men and the whole student body can best be served by locating the fraternities outside of the campus on a tract of land separate from the dormitory centre which can be developed by a real estate trust with which each of the fraternities can deal?

3. Do you believe that the entire question of housing the fraternity men in the new

Technology should be left entirely to individual fraternities and they should independently provide their own quarters and is it your intention to follow out such a plan?

The result of this vote was as follows:

In favor of No. 1.....	9
In favor of No. 2.....	1
In favor of No. 3.....	8
Not voting.....	1
Total.....	19

We feel that the opinion as indicated by this vote represents the undergraduate opinion to a greater extent than the graduate opinion. The majority of undergraduate opinion among the fraternity students appears to be against locating on the campus. While the graduates of the fraternities appear to be divided in their opinions on this point the majority appear to be in favor of having the different chapters locate in the general dormitory system. The demands which would necessarily be made by fraternities in living on Institute grounds and in sections provided by the Institute would be for individual lounge rooms, individual eating and possibly cooking arrangements and facilities for conducting fraternity meetings.

The different reasons brought forward by those chapters who wish to live apart from the remaining student body and from the general dormitory life are as follows:

1. Additional privacy of living not to be obtained on the campus will be secured.
2. Opportunity will be secured to develop men according to individual fraternity ideas and ideals.
3. Opportunity will be secured to build and occupy houses of varying degrees of size and appointment.

The main reasons brought forward by those who advocate placing fraternities in the regular dormitory system are as follows:

1. A strong and permanent nucleus for the entire dormitory system of the Institute would be formed and the Institute, as well as the student body, would secure the direct coöperation of a united body of strong men.
2. Fraternity members would secure a great advantage in that they would have direct access to the gymnasium, athletic field, swimming pool, tennis courts, Walker Memorial, as well as to the libraries, administrative and educational buildings of the Institute.
3. The feeling which has existed to a marked degree in other institutions and to a slight degree in Technology between fraternity and non-fraternity bodies would tend to disappear.

## 5

## RELATION OF OTHER STUDENT SOCIAL ORGANIZATIONS

Your committee feels that all other social clubs, class societies or societies of any sort existing in the Institute should be given the same privileges as are accorded to the fraternities and should have the opportunity of leasing individual stairways whenever such bodies appear to be financially responsible.

We feel that there will be a natural tendency for the men residing in the different stairways to band together in informal clubs and this committee feels that the formation of such informal clubs will be most desirable and should be encouraged by the Institute Corporation.

## Preliminary Work on the Site

Preliminary engineering and geological work on the site for the new Technology buildings has been completed after an expenditure of \$3,500; and, with the exception of some newly invented settling tests, the land is ready for actual construction to begin.

Since last September a force of eight men has been at work drilling and examining the ground. About twenty-five drill holes were put down on the lot, totaling over 3,000 feet, and others were made at Lafayette square, Massachusetts avenue and Albany street to see the effect of the settling of buildings already built.

The peculiar nature of the ground makes the problem of foundations a complex one; but aside from added expense there will be little or no trouble experienced. The harm, if any, will come from the settling of the land when the weight of the buildings is put upon it. In order to determine what is the cause of this settling and how much it amounts to, a novel set of tests is being made which have never been tried before. The tests will be made by sinking a pit about five feet square down to the two strata which are thought to be responsible for the sinking. A post of known base area is then erected with a platform on top. The platform will then be loaded and the amount of sinking from day to day will be recorded with a surveyor's level.

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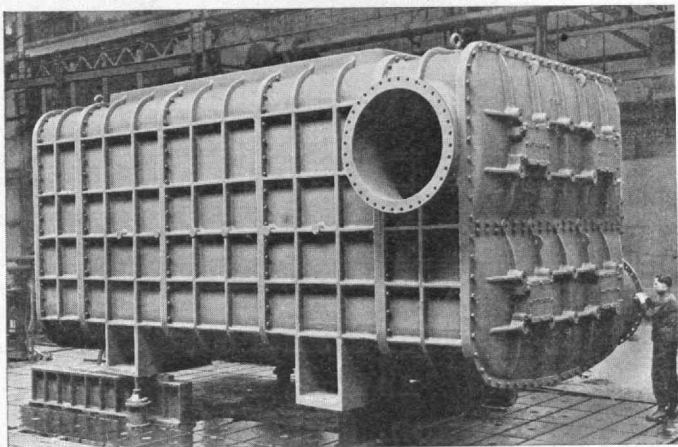
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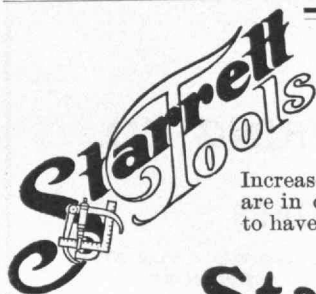
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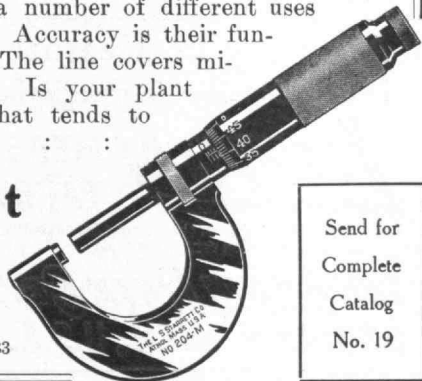
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